

Shells in the Coll. of C. B. Adams, etc.<sup>1</sup> p. 29, note, Jan. 1847 (with the same two species as types); Pan. Sh. p. 275, 1852 (*G. pacifica*). Jay, Catal. of Shells, Jan. 1850; *ibid.* 1851. Not *Gouldia*, Bon. 1849-50 (*Aves*).

*Eriphyla*, Gabb, Pal. Calif. i. p. 180, 1864, type *E. umbonata*, Gabb; Stoliczka, Pal. Ind. iii. p. 156, 1871.

? *Eriphylopsis*, Meek, Pal. Upper Missouri, p. 125, 1876 (*E. gregaria*).

*Crassinella*, Guppy, Geol. Mag. Oct. 1874, p. 451, types *C. pacifica* and *C. martinicensis*, loc. cit. Not *Crassinella*, Conrad.

Mr. Gabb's *Eriphyla* was described under the idea that certain characters of the hinge were constant, which an examination of a series of a recent species of *Gouldia* (*G. mactracea*, Linsley) has shown to be variable; and the same is probably true of Meek's *Eriphylopsis*, in which the specimen examined had the teeth reversed, as regards the right and left valves, as compared with the recent species. Such reversals occur in nearly all bivalves in individual cases, and, unless confirmed by the testimony of a large series, can hardly be held to have any systematic value.

It would seem, therefore, that the genus *Gouldia* of Bonaparte requires a new name; but, with Mr. Guppy's example as a warning, I shall leave that to the ornithologists to settle.

It may be remarked, however, that another genus of *Trochilidæ*, *Halía*, Mulsant and Verreaux (Mém. Cherbourg Soc. Sc. Nat. xii. 1866), is preoccupied by Risso (Eur. MÉR. 1826) for a valid genus of mollusks. It may also be questioned whether *Doryfera*, Gould, P. Z. S. 1847, has the right to exist simultaneously with *Doryphora* (Illiger, 1811, and Kütz. 1844). Moreover *Glaucus* (Bruch, Cab. Journ. 1853, *Laridæ*) was used for a mollusk by Forster in 1800, and *Gnathodon* (Jardine, Ann. Nat. Hist. xvi. 1848, *Columbidæ*) was used by Gray for a mollusk in 1825.

Washington, Dec. 25, 1878.

## 7. A few Notes upon Four Species of Lemurs, specimens of which were brought alive to England in 1878<sup>2</sup>. By GEORGE A. SHAW.

[Received January 9, 1879.]

(Plate IX.)

### 1. THE RING-TAILED LEMUR<sup>3</sup>.

As far as my experience of seven years goes, these Lemurs are found only in the south and south-western borders of the Bétsileo province of Madagascar. This province is about 150 miles in length, by 50 or 60 in width, and is situated on the central tableland, about 100 to 250 miles south of Antanànarivo, the capital of Madagascar.

<sup>1</sup> Middleburg, Vt., Justus Cobb, 1847, 8vo, pp. 32. The preface is dated January 1847.

<sup>2</sup> [See above, p. 2.—P. L. S.]

<sup>3</sup> [*Lemur catta*, Linn.—P. L. S.]



J. Smit lith

Hanhart imp.

CHIROGALEUS MILII.



A forest extends along the whole eastern side of this province, fringing the tableland, and covering all the slopes down into the lowland bordering the sea; but nowhere in these forests have the Ring-tailed Lemurs been found. Their habitat in the south and south-west is among the rocks, over which they can easily travel, where it is impossible for the people, although bare-footed, to follow. An examination of their hands will show that they are preeminently adapted for this kind of locomotion. The palms are long, smooth, level, and leather-like; and enable the animal to find a firm footing on the slippery wet rocks, very much on the same principle as that which assists the fly to walk up a pane of glass. The thumbs on the hinder hands are very much smaller in proportion than in the Lemurs inhabiting the forests, which depend upon their grasping-power for their means of progression. These spring from tree to tree, and rarely if ever touch the ground, except in search of water.

Hence the Ring-tailed Lemurs are an exception to the general habits of the Lemuridæ, in that they are not arboreal. There are very few trees near their district; and those which do grow there are very stunted and bushy.

These Lemurs are provided with two long canine teeth or fangs in the upper jaw, those of the male being considerably longer than those of the female. These they use to take away the outer coating of the fruit of the prickly pear, which is full of fine spines, and constitutes their chief article of winter food, and which grows abundantly in the crevices and around the foot of the rocks. Their summer food consists of different kinds of wild figs and bananas. Their fangs are doubtless used as weapons of self-defence, although when fighting I have noticed that they depend a great deal upon their hands, with which they scratch and strike. I have seen the male put a dog larger than itself to the rout in this way.

They are very easily tamed, and in captivity will eat almost any kind of fruit, but do not like meat in any form. By a little care, they can be induced to feed upon cooked rice, upon which they thrive. In their natural state, they do not drink, as is proved not only from the native accounts, but also by the fact that for the first month or two after being caught, and while living on bananas, they do not drink. It is curious that all the species of Lemurs living on the west, including the two kinds of white Lemurs, appear to subsist without water; whilst all those on the east invariably drink at their meals.

## 2. THE BROAD-NOSED LEMUR<sup>1</sup>.

This one was caught and chained up last January. It came from the higher-level forests on the eastern side of the Betsileo, among the bamboos, on which it appears in a great measure to subsist. Its teeth are different from those of any other kind of Lemur with which I am acquainted. It has the few sharp outwardly inclined teeth in the lower jaw in the front common to all Lemurs, and which they use

<sup>1</sup> [*Haplemur simus*, Gray, P. Z. S. 1870, p. 828, pl. lii.—P. L. S.]

as scrapers, and not to bite with. Besides these, nearly all<sup>1</sup> its teeth are serrated cutting-teeth, and are arranged, not in opposition, but so as mutually to intersect. In this respect it is admirably accommodated to suit the country in which it lives, as with the greatest facility it can bite off the young shoots of the bamboo, and mince up a whole handful of grass blades and stalks at once, each bite cutting clean, like a pair of scissors. Like very many grass-eating animals, it seems to feed nearly all day long. For several months I had this one chained on the lawn; and it scarcely ceased gathering the grass within its reach, and eating it, from morning till evening. It is also unlike other Lemurs in its dislike of fruit. I have tempted it with very many different kinds of berries and fruits growing in the forest; but it would not touch any of them. It is very fond of cooked meat, and also of sugar-cane; and it was owing to its desire for sugar that it has been coaxed to eat cooked rice, which is now its staple food. It is furnished with a remarkably broad pad on each of the hinder thumbs, by means of which it is enabled to grasp firmly even the smoothest surfaces. Unlike most other Lemurs, its head is very round, although the female has a somewhat more pointed snout than the specimen now in the Society's Gardens. Its cry is very peculiar, at times resembling the quack of a duck, at other times loud and piercing. Its tail is long, but not very bushy.

### 3. THE BROWN MOUSE-LEMUR<sup>2</sup>. (Plate IX.).

This small and highly interesting animal was caught in November 1877, since which time it has lived in a small box, and has been allowed a little exercise about the room each night. It is nocturnal in its habits; and its food consists of fruits and possibly honey: of this there is abundance in the forests on the eastern side of Betsileo, from the lower parts of which the animal was brought. The specimen is full-grown, about seven or eight inches in length; has a pointed snout and very prominent eyes, large ears, and round rat-like tail, which is not prehensile. It is of a brownish-grey colour, approaching to white on the underparts. Its four legs are almost equal in length, thus rendering it difficult for this Lemur to leap any considerable distance, as the majority of species can. It runs on all fours, but sits up to eat, holding its food in the fore hands. I fancy that in the winter months in its natural state it hibernates, because in the beginning of last winter (that is in June), after several nights' good exercise, during which time it had the opportunity of eating as much banana as it chose to take, I was astonished in the evening, on opening its box, to find it still asleep, and quite cold to the touch. At first I thought it was dead; but by holding it near to a fire and rubbing it, it gradually awoke, and when thoroughly warmed appeared none the worse in health. This happened two or three times, and without any apparent cause, as there was no ill health, nor was the weather particularly cold. From this fact, and from the sudden and unnatural enlargement of the

<sup>1</sup> My notes with these particulars have not yet arrived.

<sup>2</sup> [This seems to be *Chirogaliscus milii*, Geoffr.—P. L. S.]